

B.C. REGIONAL ECONOMIC OUTLOOK

1981 - 1982

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B.C. Hydro
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1. ECONOMIC GROWTH

B.C. economic growth, as measured by real GDP, averaged close to 3.0% in 1980, which was higher than most forecasters were projecting one year ago. The short-term outlook is for a moderate decline in real growth for 1981 to about 2.5%, followed by a resurgence of growth to 4.5% in 1982.

- Modest recovery by the end of 1981 in the U.S. and Canada should improve B.C. export markets, but it is expected that the export sector will not recover to the 1979 levels this year due to slowing growth in Japan and most EEC countries. Stronger growth in all B.C. export markets in 1982 will greatly stimulate economic activity.
- Real consumer spending growth is likely to be weak in 1981. The outlook for real income growth is not bright. High inflation will erode the gains in nominal wages, and employment growth is expected to be less than that in 1980. Moderating inflation and stronger employment growth will spur consumer spending in 1982.
- The B.C. budget of March 1981 will exert a net drag on the provincial economy. Measures implemented for generating more government revenues will take more money out of the economy than new government spending program will inject in fiscal year 1982.
- Real investment spending is projected to show little growth in 1981. The adverse impacts of the National Energy Program will reduce petroleum exploration and development expenditures in the near-term. Investment in residential construction will continue to be strong in 1981 but growth over the high level of 1980 will be negligible. Overall economic slowdown in B.C. and high interest rates will tend to discourage general capital spending this year. In 1982, non-energy investment should pick up with economic recovery and a resolution of the energy impasse could greatly stimulate energy investment.

2. POPULATION GROWTH

Strong net-migration into B.C. was largely responsible for a 2.6% increase in population recorded in 1980 (Table 1). The short-run outlook is for a moderation of net-migration flows into B.C. reducing total population growth to 2.3% and 2.2% in the next two years respectively. High housing costs in many areas and the lack of housing units, as well as a shrinking of the favourable employment conditions in B.C. compared to Canada as a

Table 1

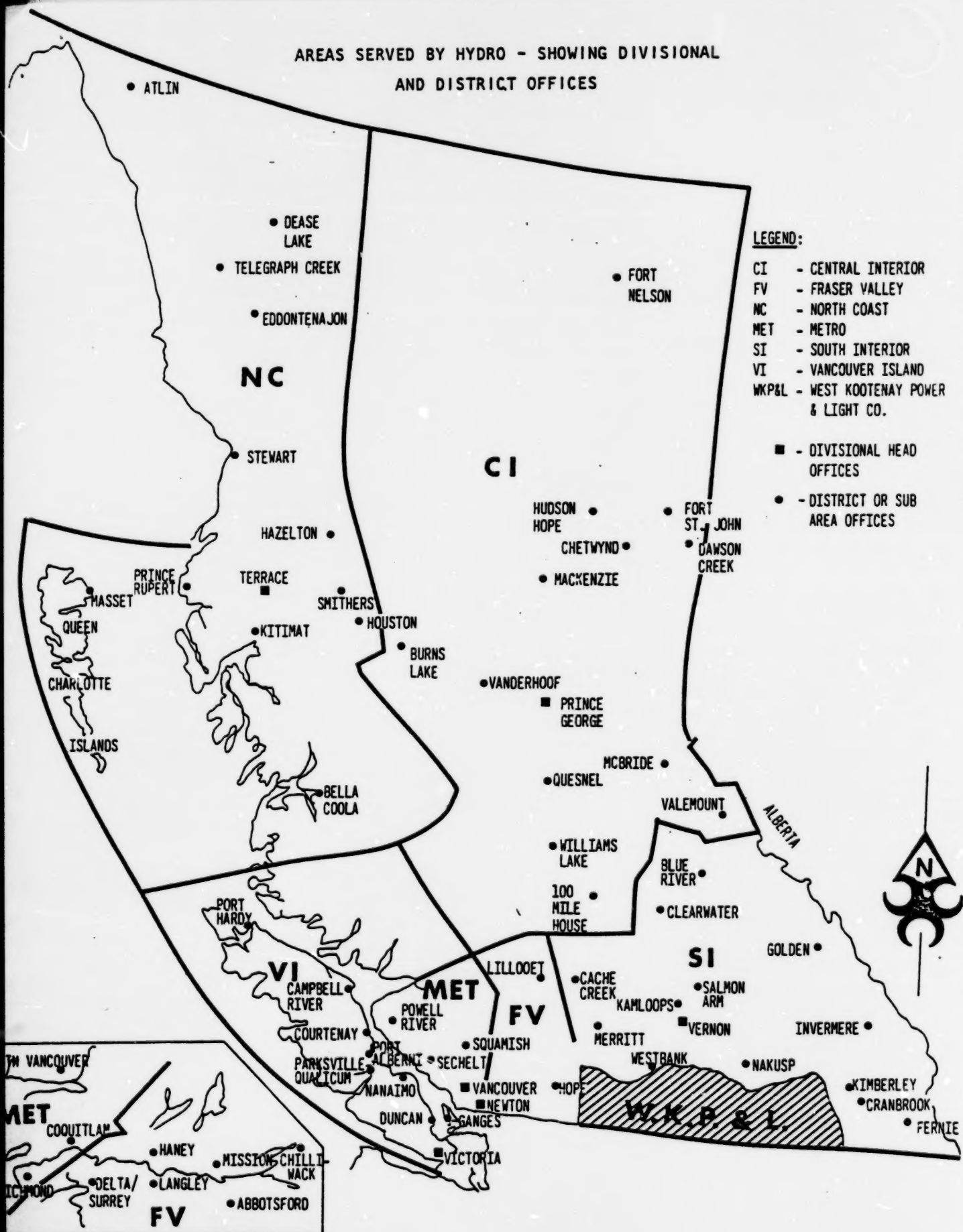
B.C. POPULATION PROJECTION BY HYDRO POWER DISTRICTS

District	1980 Estimates		Projections			
	(000)	(% Change)	1981 (000)	(% Change)	1982 (000)	(% Change)
South Interior	328	3.2%	332	1.2%	335	0.9%
Central Interior	213	1.9	220	3.3	228	3.6
North Coast	91	3.0	93	2.2	94	1.1
Fraser Valley	391	4.7	411	5.1	431	4.9
Metro Vancouver	1,017	2.0	1,027	1.0	1,036	0.9
Vancouver Island	479	7.7	493	2.9	508	3.0
West Kootnay Power & Light	119	10.3	121	1.7	123	1.6
Total Population	2,636	2.6	2,697	2.3	2,757	2.2

Note: Projections were made using simple trend extrapolation based on historic population estimates by school districts. As a result the projections should be used only as a rough guide to population growth in the short-term.

Source: B.C. Hydro estimates.

AREAS SERVED BY HYDRO - SHOWING DIVISIONAL AND DISTRICT OFFICES



whole will likely reduce the high growth experienced recently.

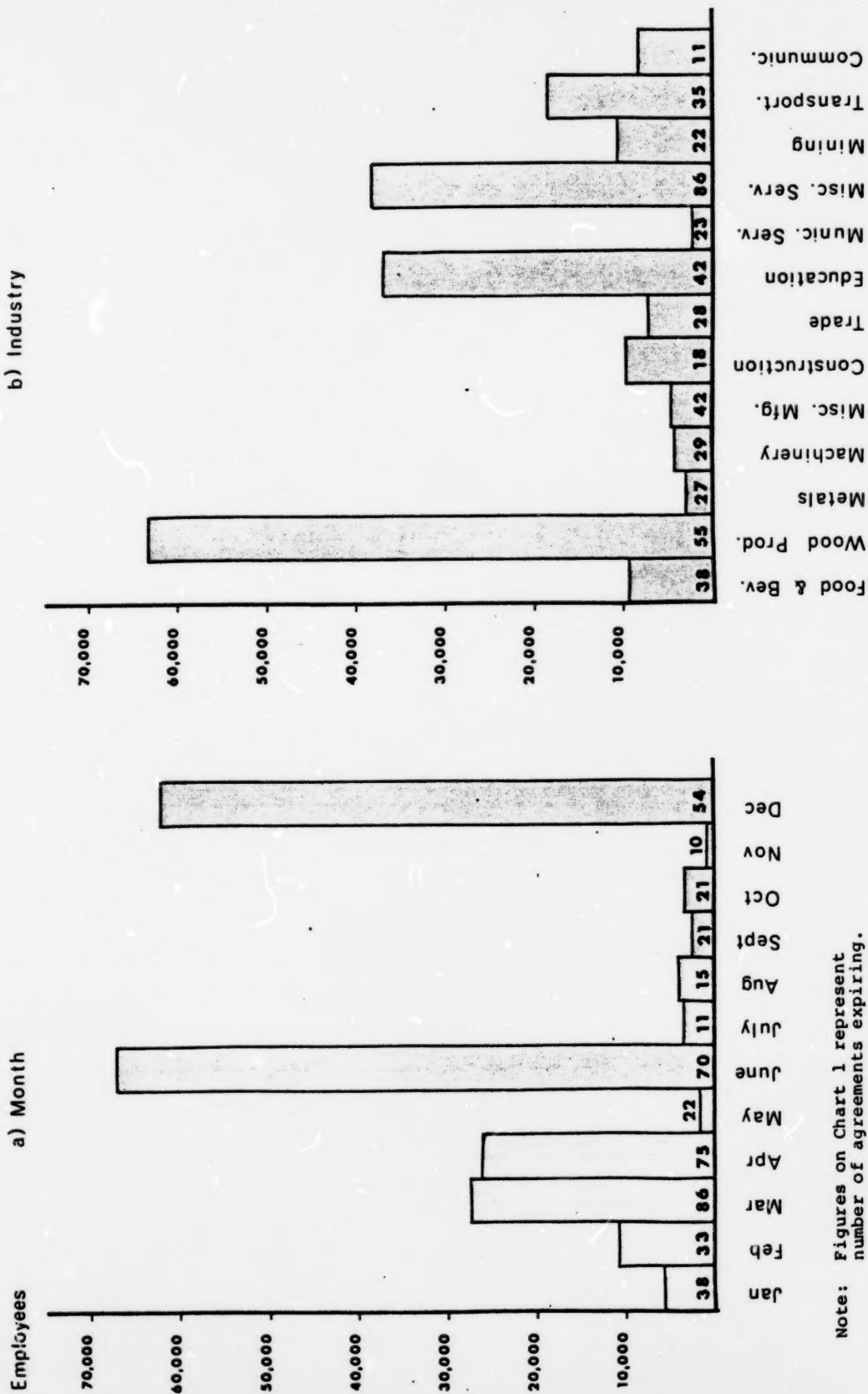
A very notable decline in population growth is projected for the Metro Vancouver Division, which reflects the developing tendency of population growth to shift away from the major population centres towards the less populated areas. It is estimated that population growth in the Central Interior, the Fraser Valley and Vancouver Island will exceed the average expected for the province in the short run. In contrast, the South Interior, the North Coast, Metro Vancouver and the West Kootenay Power and Light are estimated to experience population growth below the near-term average for B.C.

3. LABOUR BARGAINING CLIMATE

It is expected that the bargaining climate in B.C. will be quite unsettled this year with the number of employees bargaining exceeding that in 1980 by close to 51,600 workers. Labour will be demanding substantially higher wage increases in an attempt to regain much of the real purchasing power that has been eroded by inflation during the last contracts. Close to 75% of the workers whose contracts expire this year will be coming off agreements that have been in effect for two years or more, a period during which inflation has been rising considerably. Increasing inflationary expectations, lost real incomes and tight labour market conditions, marked by a falling unemployment rate in 1980, have put labour in a powerful bargaining position this year. So far this year we have had three major strikes including Greater Vancouver Municipal Workers, ICBC and B.C. Telephone.

In terms of the number of employees whose contracts expire, the month of June will have the largest, followed by December (Chart 1). Most of the June bargaining will be in the manufacturing industries which have historically been responsible for the most work stoppages (in 1979 labour in manufacturing accounted for 63% of the total worker-days lost due to work stoppages). A large share of the manufacturing contracts signed in 1979 were two year contracts and will be expiring this year. The major bargaining activity in December will involve the B.C. Teachers Federation. If this group strikes the major impact on school operations will be felt in early 1982.

CHART 1 EMPLOYEES COVERED BY AGREEMENTS EXPIRING IN 1981



Source: Ministry of Labour
Calendar of Expiring Collective Agreements
1981

4. INDUSTRIAL OUTLOOK

a) SECTORAL OVERVIEW

Lumber

Moderate increases in lumber production, from the 1980 output of 12 billion board feet, are expected over the next couple of years, perhaps averaging around 3% production growth/year. There will be no significant increases in mill capacity over the forecast period, and price volatility is expected to continue.

Plywood

Demand for plywood should generally follow the pattern for lumber while reflecting continued strong B.C. housing starts and a recovery of Canadian and U.S. housing starts. No major capacity increases are planned in the next two years and production growth is expected to average about 3%/year.

Newsprint

Over the next two years B.C. newsprint production is expected to remain close to the 1980 output of 1,323,000 tonnes. The closure of the Ocean Falls mill in 1980 will be more than offset by 1981 capacity increases of roughly 33% and 60% at Powell River and Elk Falls, respectively, followed by a 70% capacity increase at the BCFP Crofton Mill in 1982.

Pulp

Provincial pulp production is expected to decline about 3% in 1981, but by 1982 production should have recovered to 1980 levels in response to the anticipated economic recovery, particularly in European markets.

Very significant increases in production capacity are proposed over the next few years. We should see the new 430 tonne/day Quesnel River Pulp TMP mill and the 400 tonne/day Doman Industries TMP mill at Duke Point on line by 1981. By 1984 we may also see a new 540 tonne/day bleached kraft mill at Ocean Falls. In addition, there are numerous mill expansions in the planning or implementation stage, following the 20% increase in the MB bleached kraft mill at Harmac in 1980:

- * 5% expansion of Eurocan, Kitimat, unbleached kraft, 1981
- * 30% expansion of WFP, Woodfibre, bleached kraft, 1981
- * 50% expansion of FFP, McKenzie, RMP, 1981
- * 10% expansion of Cancel, Prince Rupert, bleached kraft, 1982
- * 12% expansion of CPP, Quesnel, bleached kraft, 1983
- * 100% expansion of CFI, Shookumchuk, bleached kraft, 1984

- * 100% expansion of Cancel, Castlegar, bleached kraft, 1984
- * 100% expansion of Northwood, Prince George, bleached kraft, 1984
- * 20% expansion of WFP, Port Alice, sulphite pulp, 1984/85

Copper

Copper production in 1981 is expected to jump an impressive 22% relative to 1980 output, reflecting the growing demand for the metal as a result of increasing capital investment in North America, with dramatically increasing U.S. military spending expected to be a major factor. Production in 1982 is currently expected to continue around the 1981 level.

In terms of new capacity, the new mines at Copper Mountain and Highmont, which came on line around the end of 1980, are expected to be followed by new mines at Sam Goosly in 1981 and Goldstream in 1982, plus expansions of existing mine capacity at Lornex, Granduc, Babine and Similkameen, all around 1981.

Molybdenum

The short-term production outlook for Molybdenum is even more favourable than for copper, although there will be some gradual softening of price from around \$26/kg in 1980 to around \$21/kg by 1982. Production is expected to jump more than 50% in 1981 to around 17,700 tonnes/year, followed in 1982 by a slight decline in output. Demand for B.C. molybdenum is reduced by competition from Mexico in the Japanese market and by the current general slackness in the European steel industry, but this is more than offset by strong demand for the specialty steels used in armaments, pipelines, drill stems and certain process equipment.

The Endako mine returned to production in 1980 after resolution of the protracted strike there, and the new mine at Highmont which started in late 1980 also produces some molybdenum. Production capacity in 1981 will also be increased by the new mine at Kitsault as well as the expansions at Lornex and Boss Mountain.

Lead

The lead market has been somewhat depressed recently, due to diminished lead demand from the auto industry and petroleum refining companies. No growth in production is expected in 1981, but by 1982 production is likely to increase by around 4%, as the North American automotive sector begins

to recover and as U.S. environment restrictions are relaxed concerning lead as a fuel additive. No growth in B.C. lead mine capacity is expected over the forecast period.

Zinc

In 1980 B.C. zinc production dropped a hefty 30% because of a downturn in zinc utilization by the auto industry. Zinc production is not expected to grow in 1981 but should increase around 7% in 1982 as strength returns to the North American automobile sector. As is the case with lead, no new zinc mining capacity is expected in the next two years.

Coal

Coal mining activity in B.C. is expected to increase dramatically in the next few years. At present, production is concentrated in the Crowsnest Coalfield in the Southeast, from which an estimated 9.3 million tonnes of metallurgical coal and 1.2 million tonnes of thermal coal was produced in 1980. No change in production capacity is expected in 1981 but by 1983 production capacity in the Southeast should have grown to 14.3 million tonnes/year of metallurgical coal and 2.9 million tonnes/year of thermal coal.

Preliminary agreements have been signed, and formal contract signing is apparently imminent, which would start development of the Peace River Coalfield and related infrastructure in the Northeast. By 1983 the Ministry of Energy expects to see the production of roughly 5.5 million tonnes/year of metallurgical coal and 1 tonne/year of thermal coal from that area.

B.C. Hydro has also announced its plans to develop the Hat Creek thermal coal deposits for a 2000 MW coal-fired power plant, subject to Provincial approvals. In addition, studies have been initiated into the feasibility of a coal liquefaction plant at Hat Creek, but such developments would be well beyond the forecast period of this report.

Natural Gas and Oil

Commercial oil and natural gas production has been confined to the Northeast quadrant of the province and this is expected to continue in the short-term. In 1980 natural gas production fell roughly 30% to 249 bcf. Of this, 151 bcf was allocated to the domestic market and 98 bcf to the export market. The drop in production was largely attributable to a sharp decline in exports, caused by warmer winter temperatures, increased competition from residual fuel oil and American natural gas, and an increase in U.S. supplies as a result of U.S. natural gas price deregulation. In the near-term, B.C. gas exports are likely to be constrained even further in light of the significant increases applied recently to the natural gas export price, which has grown from \$2.30/MM BTU in May '79 to \$4.94/MM BTU in April 1981. By 1982 natural gas production is expected to have declined slightly to around 240 bcf of which roughly 160 bcf should be required within B.C. and roughly 80 bcf exported.

Oil Production in 1980 was roughly 2 million cubic meters and this rate is expected to continue for the next year or two.

b) REGIONAL HIGHLIGHTS

The following is intended to be a review of some of the major capital projects which are likely or possible within the next few years. The list is intended as a general guide only. There are a number of potential projects which have not been included, and several of those listed have not yet been finally committed or fully approved. The regional breakdown corresponds to the B.C. Hydro Divisions shown in the map on page 3.

North Coast

There are a number of possible major capital projects, primarily in the area of pulp and paper, mining and smelting, and in the improvement of the regional rail and port infrastructure:

- 5% expansion of Eurocan Pulp and Paper's Kitimat plant, raising unbleached kraft pulp production capacity to 850 tonnes/day by 1981.
- the \$2 million gold development of United Hearne Resources near Cassiar to be completed by early 1981.
- startup in 1981 by Placer Development of leach plant facilities at Sam Goosly mines, near Houston, at a total cost of \$129 million.
- establishment of the Scottie Gold mine at Stewart to be completed in May 1981, total cost: \$19 million.
- Dupont Canada's new Chapelle gold and silver mine near Smithers, at a capital cost of \$12 million, to start production in 1981.
- possible new sawmill and chipboard plant proposed for Ocean Falls, at a cost of \$9 million, construction tentatively scheduled to start in 1981.
- 10% expansion of the Canadian Cellulose pulp mill at Prince Rupert to a capacity of 1,220 tonnes/day of bleached kraft by 1982.
- the Amax development at Kitsault which will produce 9 to 10 million pounds/year of molybdenum concentrates by 1982.
- construction of a \$175 million methanol plant by Ocelot Industries Ltd. at Kitimat to be completed in 1982.
- Prince Rupert port development at Ridley Island which will include coal terminal facilities, estimated to be completed by late 1983.
- Upgrading construction of the CNR Prince Rupert - Prince George section, costing approximately \$240 million including rollingstock, to be completed by 1983.

- reactivation by Esso Minerals Ltd. of the Granduc copper mine near Stewart at a net cost of \$50 million.
- possible new 540 tonnes/day capacity bleached kraft pulp mill at Ocean Falls by 1984.

Central Interior

Industrial expansion will be diversified during 1981-82 in the Central Interior but will largely centre on the mining and pulp sector. Rail developments are also likely to play a major role in the continued expansion of economic activity in the region.

- 50% expansion in 1981 of Finlay Forest Products refiner mechanical pulp capacity at Mackenzie and expansion of existing sawmill at a total cost of \$32 million.
- completion of a refiner groundwood pulp mill constructed at \$35 million by Daishowa of Canada Ltd. and West Fraser Mills Ltd. by 1981.
- Westcoast Transmission \$14 million sulphur plant expansion will expand capacity to 460 tonnes/day by early 1981.
- expansion of Noranda's Granisle copper-molybdenum production capacity in the Babine area at a cost of \$20.5 million.
- establishment of a new 430 tonnes/day thermo-mechanical pulp mill at Quesnel River Pulp by 1982.
- continuation of B.C. Chemicals expansion at Prince George which will accommodate, upon its 1982 completion, a 40% increase in output.
- expansion of Noranda's Boss Mountain property near 100 Mile House by late 1982 at \$12.5 million.
- expansion by 1983 of Cariboo Pulp/Paper Co. pulp mill at Quesnel to realize 12% capacity increase in kraft pulp, costing \$12 million.
- CNR upgrade of the Prince George-Prince Rupert section by 1983(also listed under North Coast Division).
- B.C. Rail Anzac Spurline to Northeast Coal fields to be built by 1983 for an estimated \$3.5 million.
- new \$40 million recovery boiler at Prince George Pulp and Paper for 1983 completion.
- expansion of Northwood Pulp and Timber's Prince George pulp mill which will increase bleached kraft pulp capacity by 100% to 1,450 tonnes/day by 1984 at a cost of \$250 million.

- development of a new townsite for the N.E. coal complex labour force at Tumbler Ridge with proposed manpower capacity of 8,350 by 1984.
- development of Northeast Coal field:
 - a) Teck's Bullmoose property proposed for completion by 1983 with an annual capacity of 1 million tonnes of metallurgical coal
 - b) Denison's Quintette mine producing 1 million tons thermal and 3.1 million tonnes/yr. metallurgical coal by 1985. Total construction cost for Bullmoose and Quintette developments estimated at \$680 million.
 - c) British Petroleum's Sukunka property proposed for completion by 1983 to produce 1.0 million tonnes/year metallurgical coal at \$300 million initial cost.
- construction of B.C. Hydro generation project at Site C on the Peace River, at an estimated cost of roughly \$1,800 million with the first unit in service around 1986/87, subject to obtaining approvals.

South Interior

Mining activity, involving copper, molybdenum and coal operations will be the predominant economic driving force in the region. In addition there is a significant level of power project construction activity and the possibility of some pulp mill expansion.

- expansion of the Lornex Highland Valley copper-molybdenum mine, costing \$160 million, 1981 completion.
- rehabilitation of Ruth Vermont's silver, lead, zinc mine at Golden for \$16 million, scheduled for 1981 start-up.
- expansion of Similkameen Mines copper mine at Princeton, involving \$23.4 million, to be completed in 1981.
- construction of Teck Corp.'s Highmont copper mine, to be completed in 1981 at a \$150 million cost.
- Maloney Steel Ltd.'s \$3 million capital expenditure on their facilities in Kelowna, scheduled for 1981 completion.
- Noranda's Goldstream mine-construction total \$62 million, operational by late 1982.
- electricity transmission line from 7 Mile Dam to Nicola and Cranbrook, expected completion 1981, cost approximately \$170 million.
- Revelstoke Dam construction at an estimated cost of \$1,700 million with the first unit scheduled to come on-line in 1983/84.

- construction of facilities at Crows Nest Industries' Line Creek which, at an initial construction cost of \$180 million, will produce 1.0 million tonnes/year. metallurgical coal and 0.75 million tonnes/yr. thermal coal by 1983.
- expansion of Fording Coal operations of 1.5 million tonne/yr. of metallurgical coal and .5 million tonne/yr. thermal coal by 1983 at a cost of \$115 million.
- construction of a proposed ferro-silicon plant at an estimated \$50-60 million, contingent upon feasibility study results. Production is scheduled tentatively for 1983. (Note that several corporations are interested in this project and several locations are possible. It is not certain that the facility would be located in the South Interior.)
- continuation of Cominco's \$425 million smelter expansion and modernization program at Trail, scheduled to be completed by 1984.
- construction of the Greenhills Mine at Sparwood at \$200 million, with production of 1.8 million tonnes/yr. of metallurgical coal by 1984.
- 100% expansion in Cancell's bleached kraft capacity at Castlegar, at an estimated cost of \$360 million, assuming 1984 completion.
- 100% expansion in Crestbrook Forest Industries bleached kraft pulp capacity at Skookumchuck at a total cost of \$275 million. This project is still tentative, and dependent in part upon securing a satisfactory wood supply.

Metro

Generally, the outlook is optimistic, as most sectors in this region will experience renewed growth during the next few years:

- MacMillan-Bloedel's \$163 million expansion at Power River will increase overall newsprint capacity 33% to 2,100 tonnes/day by 1981.
- Alcan Products Ltd. are spending \$9 million on an aluminum rod mill in Richmond which will replace a smaller mill by late 1981.
- Burrard Drydock Company expect to quadruple drydock capacity with the \$63.3 million construction of new deepsea drydock facilities which should be completed by 1981.
- dredging is scheduled to start in 1981 on a \$48 million expansion which should eventually quadruple the present capacity of the Roberts Bank coal port.
- MacMillan-Bloedel's \$57 million expansion of Island Paper at New Westminster will increase production capacity of uncoated paper by 210 tonnes/day by 1982.

- B.C. Forest Products' \$35 million replacement of Port Hammond sawmill is slated for 1982 completion.
- construction of Phase I of the undersea transmission line from Squamish to Vancouver Island, at an approximate cost of \$820 million, to be in service by 1983.
- Sheli is planning to spend \$52 million to upgrade its Burnaby refinery with completion of the first phase scheduled for 1983.
- construction is already underway on the \$115 million domed stadium phase of the urban redevelopment at B.C. Place in Vancouver, to be completed by 1983.
- The \$95 million Convention Centre and cruise ship facility planned for Pier B-C by 1983/84.
- the Fraser River highway crossing at Annacis Island at an estimated cost of \$130 million and scheduled for completion by 1984 subject to approvals.
- Western Forest Products are considering a \$200 million pulp mill modernization at Woodfibre scheduled for 1984-86.
- possible startup of the \$650 ALRT system for Greater Vancouver with Phase I tentatively scheduled for completion by 1986.

Fraser Valley

Economic development projects are fewer than in other larger divisions, but development is expected in a number of industries.

- The new Carolin gold mine near Hope, scheduled to start-up in 1981 at a development cost of \$19 million.
- \$45.7 million sawmill renovation at Fraser Mills, which is underway
- East Chilliwack Co-op \$3.5 million fruit processing plant scheduled for 1981.

Vancouver Island

Several capital-intensive developments in the Vancouver Island region reflect the economic vitality of the area. Development prospects are strong in the pulp/paper and chemical industries. In general, economic activity should continue to experience slow but steady growth.

- \$20.5 million berth terminal and barge slip at Duke Point, Nanaimo, to be completed by 1981/82.
- \$150 million newsprint mill expansion at B.C. Forest Products Crofton division, to be completed in 1982.

- continuation of the \$171 million newsprint mill expansion at Elk Falls, scheduled for completion by 1982.
- Canadian Occidental Petroleum Ltd. are planning to spend \$6.4 million on a Sodium Chlorate facility at Nanaimo by 1982.
- \$50 million improvement of Western Forest Products log-handling facilities at Fort Alice, scheduled for completion by 1983.
- the Squamish to Vancouver transmission line(already covered under the Metro Division)
- \$91.8 million construction of a new chemical recovery boiler at the MacMillan Bloedel Harmac mill scheduled for late 1983 completion.
- \$94 million replacement sawmill at MacMillan Bloedel Chemanus to be finished by 1983.
- \$125 million (exclusive of distribution costs) construction of Vancouver Island natural gas pipeline - completion date 1984. (Note that this also applies to Metro Division).
- \$100 million construction of a new 500 tonne/day pulp mill by Doman Industries at Duke Point Nanaimo Completion Approximately during 1985.

APPENDIX

HISTORIC GROWTH IN REGIONAL ACCOUNTS AND SALES
FOR SELECTED INDUSTRIES

Table 2

GROWTH IN B.C. HYDRO ACCOUNTS BY DIVISIONS ^{1/}

(Average Annual % Change)

	<u>Total Accounts</u>		
	<u>1975 to 1980</u>	<u>1980</u>	<u>1981</u>
Metropolitan Vancouver	2.4	1.0	2.1
Fraser Valley	5.2	4.1	4.9
Central Interior	4.6	4.7	4.6
North Coast	3.4	3.7	5.0
South Interior	4.3	2.4	3.8
Vancouver Island	<u>4.2</u>	<u>2.1</u>	<u>4.0</u>
All Divisions	3.7	2.6	3.5

^{1/} For fiscal years ending March 31.

Source: B.C. Hydro

Note: The growth in accounts increased in all divisions, excluding the Central Interior, in fiscal year 1981 relative to 1980. The North Coast Division experienced the greatest growth in accounts while Metropolitan Vancouver showed an increase of only 2.1%.

kW·h SALES TO MINES (INCLUDING MILLING), QUARRIES AND OIL WELLS
BY ELECTRIC POWER DIVISION

